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ABSTRACT

The Lansing Area Manufacturing Partnership (LAMP) is an academically rigorous, business/labor-driven school-to-career program in Lansing, Michigan, that includes business, union, school, and parent partners and provides participating students with work-based learning experiences for 2.5 hours every day throughout their senior year. LAMP's short-term impacts were evaluated in an extensive case study of its effects on participants from the classes of 1998 and 1999. The case study established more than 40 impacts affecting LAMP participants. The LAMP program participants responded well to the new instructional practices of work-based, project-based, and team-based learning as evidenced by increases in their motivation and attendance, their improved interpersonal skills, and the clearer focus of their postsecondary plans. In contrast to many school-to-career initiatives taking place around the nation where industry plays a less active role, LAMP's employer partners have made a deep and genuine commitment to the program. Participation in LAMP improved and added to many participants' employability skills. Beyond helping selected students better prepare for their postsecondary careers in college and work, LAMP has contributed to broader educational reform. Participation in LAMP was shown to change educator and staff perspectives on manufacturing careers. The case study established that LAMP is well positioned to have a strong impact on public education. (MN)

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MANUFACTURING EDUCATIONAL CHANGE

IMPACT EVALUATION OF THE LANSING AREA MANUFACTURING PARTNERSHIP PILOT PROGRAM

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

This document briefly summarizes the major findings of an extensive case study of the Lansing Area Manufacturing Partnership (LAMP) conducted by the AED National Institute for Work and Learning (NIWL). LAMP is a school-to-work initiative sponsored by the United Auto Workers (UAW), General Motors Corporation (GM), and the Ingham Intermediate School District (IISD). Built around a specially created integrated curriculum, LAMP combines classroom instruction with work-based learning experiences that occur within GM facilities. Students attend LAMP for 2½ hours every school day throughout their senior year.

NIWL was tasked with determining the short-term impacts of the LAMP initiative. Those responsible for the design and operation of LAMP recognize that a considerable investment of resources has been committed to the initiative's development and pilot phase. Our careful review of program outcomes and impacts confirms that returns on those investments have begun to accrue. The resulting report, **Manufacturing Educational Change**, documents over 40 impacts affecting all of those who have participated in LAMP, especially the students. However, some of the most profound effects, such as shifting the paradigm of education, building bridges between the educational and business sectors, and promoting the career development of young people, may not be fully appreciated for many years.

Manufacturing Educational Change documents the degree to which LAMP has had an impact on the key stakeholders involved in the initiative. Quantitative and qualitative data were systematically collected from students and their parents, educational staff, and worksite personnel over an 18-month period. During the course of conducting the outcome analyses, several findings emerged which speak directly to issues of program implementation. These are briefly cited here to update the quality of LAMP's operational status, which served as the focus of the interim report, **Simultaneous Development**, delivered in December of 1998.

- Along every dimension of expected outcomes, students in the Class of 1999 reported greater impacts than their counterparts in the Class of 1998.
- Areas of program operation that received the lowest ratings by the Class of 1998 experienced the greatest increases as evidenced by the ratings of the Class of 1999.
- A much higher proportion of students in the Class of 1999 agreed with the statement that "LAMP was well-organized," with average responses increasing from 5.3 to 8.2 on a ten point scale.
- The proportion of students who reported that LAMP exceeded their expectations increased from 43% in 1998 to 69% in 1999.
- The percentage of students who gave LAMP a letter grade of "A" nearly doubled, increasing from 28% in the first year to 53% in the second.

These findings indicate that LAMP improved its ability to effectively deliver the program. They further suggest that the program has become stable and organized enough to confidently assess its impacts.

LAMP is organized as a partnership and as such, its success depends upon the commitment and contributions of its partners representing three main organizations: General Motors, the United Auto Workers, and the Ingham Intermediate School District. Each of these partners contributed to the development of a rigorous, engaging, and integrated course of study. LAMP has shown both how these seemingly disparate entities can find common ground and how intensive collaboration can produce powerful educational change that would otherwise be impossible to obtain.

The most compelling findings uncovered by our work are the positive outcomes experienced by the LAMP students. Clearly, LAMP students are learning in new and exciting ways. LAMP made a strong contribution to the educational reform movement by field testing practical strategies that dramatically change how instructors teach and students learn. Students have responded well to the new instructional practices of work-based, project-based, and team-based learning as evidenced by increases in their motivation and attendance, improved interpersonal skills, and clearer focus of their post-secondary plans.

Students, especially from the Class of 1999, reported that LAMP was much more engaging than their home schools. They found themselves wanting to contribute to activities and discussions as pairs and teams. Sometimes the whole class worked to solve problems. One student summarized her LAMP experience by saying, "I learned how to be an adult."

In addition to demonstrating the feasibility of innovative teaching methods, the curriculum provides LAMP students the opportunity to master critical skills that better prepare them for college and careers. Instructors, workplace personnel, and parents agree that the students have made considerable progress in this regard. LAMP students themselves attributed numerous positive outcomes to their participation in LAMP, which can be categorized into personal growth, enhanced employability skills, and preparation for careers in manufacturing. In all three areas, gains were observed.

> *"It gets you looking at the big picture -- in a systems way. You see the connections."*
> LAMP Student

In exit surveys with the Class of 1999, 78% responded that LAMP had greatly improved their ability to "act appropriately in a work situation." Eighty-two percent of parents and 84% of mentors observed similar improvements in students. When asked to estimate how much LAMP taught them about general employability skills, an impressive 92% of the students responded "a great deal."

Over two-thirds of the students in the Class of 1999 indicated they were better able to take initiative as a result of participation in LAMP. Almost as many reported that LAMP had a substantial impact on their ability to take responsibility. Mentors rated LAMP's ability to increase student motivation to learn as one of the strongest effects of the program. Students reported they were more likely to be on time and were better able to follow directions.

One of the most exciting findings to emerge concerns the impact of LAMP on parental involvement in the education of their children. **Parents of LAMP students appear to be more engaged and involved in their children's education than parents of students in traditional high schools.** Every single parent reported that they discuss school and participation in LAMP with their child, and about 86% do this regularly or every day. Eighty-eight percent of parents report that communication with their child about education and career plans has increased quite a bit or more.

> *"It has been so rewarding to see the students' knowledge of manufacturing and their confidence in gathering, analyzing, and presenting data increase through the year."*
>
> LAMP Parent and GM Employee

Re-engaging parents in the educational enterprise of their children is an issue secondary school educators wrestle with across the nation. LAMP has succeeded in increasing the involvement of parents with high school age children in both their current educational experience and their future decision-making.

These same parents have developed a more positive outlook towards the manufacturing industry. Perhaps even more telling, they perceive manufacturing more favorably as a career of choice, even if that choice is made by their own child. Seven out of ten LAMP parents report that their impressions of the UAW and GM have been changed as a result of their experience with LAMP. Of those, 100% report that their impression has improved.

In contrast to many school-to-career initiatives taking place around the nation where industry plays a less active role, the employer partners in LAMP have made a deep and genuine commitment to the program. Workplace staff have contributed to all aspects of this project. The amount of resources dedicated, the number of staff involved, and the level of personal commitment have been consistently high. In turn, dividends to the workplace partners are beginning to pay off.

> *"LAMP has helped me to communicate better and hopefully be a better supervisor."*
>
> LAMP Mentor

Workplace personnel welcomed the opportunity to make a contribution to the education of today's students and tomorrow's workforce. They found the experience to be personally rewarding and enriching. Those with school-age children have applied lessons learned to their own family situations. Participation is also having positive effects on the work life of many employees involved in the LAMP initiative, from improved morale and expanded networks with co-workers to influencing the way they approach their work and perform their jobs.

Participation in LAMP improved and added to the general employability skills of many employees. At the top of this list were improvements in job-related communication. Sixty-two percent of mentors indicated that LAMP helped them increase their communication skills a great deal, and 65% felt that LAMP enhanced their ability to describe their job and the skills it requires a great deal. Capstone project advisors and others also agreed that communication skills improved. When asked to what extent LAMP had helped expand their knowledge of manufacturing processes,

history, and context, 84% of mentors felt that it had helped "somewhat" or "a great deal." About half of the mentors reported that LAMP greatly helped enrich their network of contacts within the UAW and GM.

Worksite personnel felt that LAMP produced students who are well-prepared to enter a manufacturing career. In all of our interviews, focus groups, and surveys, worksite personnel had a high degree of confidence in this idea. When mentors were asked to what extent they thought LAMP would "help develop manufacturing workers with a good understanding of the future of the industry," 77% felt it would help a great deal[1].

Beyond helping selected students better prepare for their postsecondary careers in college and work, LAMP is contributing to broader educational reform. Public school administrators and decision-makers identified four aspects of LAMP that caught their attention and caused them to revisit their thinking and approach to education reform. These four dimensions were: the partnership model; increased parental involvement; innovative curriculum and instruction; and a model for education to address workforce development. The influence of LAMP on the participating school districts can already be seen beyond the students officially enrolled. Others touched by the program include administrators and staff at the participating schools, non-LAMP students who are classmates of LAMP students, and importantly, the parents of LAMP students.

> *"One of the strongest impacts LAMP has had on us has been breaking down walls between academic and vocational education. LAMP has shown us there is a third way."*
>
> School Administrator

Each administrator interviewed was able to articulate at least one example of how LAMP was helping them better implement or promote broader school reforms within their particular school setting. When asked what sets LAMP apart from other approaches to educational reform, school staff point to the integrated curriculum and innovative instructional strategies. Educators tend to cite the structural components of the initiative as most influential, for example, the curriculum's project-based nature, its emphasis on experiential and contextual learning, and its focus on developing problem-solving skills. These emerging strategies, which blur the lines between academic and vocational education, are exactly the type that most administrators would like to see adopted more broadly within their schools.

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1. Subsequent analyses would later validate the mentors' expectations. The LAMP Longitudinal Study is tracking the post-secondary career trajectories of the first three graduating LAMP classes. Interim findings have documented the workplace success of LAMP graduates. Details can be found in "Transitioning to College and Career: Interim Findings from the LAMP Longitudinal Study," available March 2002. In addition, first-hand anecdotal data from immediate supervisors provide corroborating evidence.

Lastly, participation in LAMP is changing the perspective on manufacturing careers among educational staff who work closely with students about to embark on their post-secondary careers. Teachers, counselors, and administrators have learned first-hand about the structure and culture of one of the world's largest and most complex manufacturers. LAMP created opportunities for exchange between leadership from the worlds of work and education. Both groups have learned much about the other. But educators are especially well-positioned to share what they have learned with new generations transitioning to productive employment.

While a deep understanding of this process has yet to permeate the participating school districts, LAMP appears to have been successful in influencing the perceptions and understandings of its educational partners. LAMP is especially having an impact in the Ingham Intermediate School District, because committed and influential partners are at the table. As one superintendent said, "we have a very different picture of the workplace, a different perspective on what it takes to work in a workplace with a union. Our understanding has grown significantly."

Given the outcomes documented during this impact study, the potential for LAMP to serve as a catalyst for continuing educational change appears quite high. **LAMP is well-positioned to have a strong impact on public education.** Key administrators are on board as active partners while many more have been impressed by LAMP's progress. Most importantly, students are experiencing positive educational and developmental gains.

> *"I'm already looking forward to next year."*
> Mentor, Subject Matter Expert and UAW member

Lessons learned from the current study have significant implications for continued improvement in Lansing as well as for the planned national roll-out of this initiative. LAMP provides a proven model for business, labor, and education to collaboratively develop and implement educational change on a broader level. Given the achievements of LAMP that have been documented to date, we anticipate that the LAMP model will receive serious consideration by school districts across the nation, especially those that have embraced the principles of the school-to-career movement.

SUMMARY OF LAMP'S MOST SIGNIFICANT IMPACTS

STUDENTS	SCHOOLS AND PARENTS
Students took initiative and became more responsible for their actions. Students gained respect for others and improved their ability to interact with diverse groups of people. Students improved their teamwork and communication skills substantially. Students increased in self-confidence. Students gained a better understanding of workplace culture and how to contribute. Students benefitted from hands-on and work-based learning opportunities. Students gained valuable insights into their career interests and aptitudes for the manufacturing industry.	School staff gained a greater understanding of manufacturing, the UAW, and GM. School administrators reported that LAMP helps them meet broader school-to-career and school reform goals. LAMP changed or made more realistic parents' expectations concerning their child's college and career goals. Parents became more involved in their child's education. Parents reported greater participation in their child's educational decision-making. Parents developed a better understanding and more positive perception of manufacturing, the UAW, and GM.
LAMP STAFF AND PARTNERS	**WORKPLACE AND PERSONNEL**
Partners recognized that they achieve more when working together. LAMP instructors benefitted from the support they received from worksite personnel. Educational partners became strong proponents of both contextual learning and integrated curriculum. The team teaching approach has been embraced and proven effective. Classroom staff reported a heightened awareness and understanding of the manufacturing industry. The curriculum development team created a powerful integrated curriculum.	Individuals felt personally enriched because of the opportunity LAMP offers to help young people. LAMP produced some significant impacts on individuals' own careers and work life. The need for clarity around vision, structure, and communication became apparent. Concentrated effort in this regard enabled workplace personnel to effectively participate in LAMP. LAMP helped the UAW and GM develop well-qualified manufacturing workers with a good understanding of the future of the industry. LAMP has already begun to influence other worksite practices (e.g. training).